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| 10/525,343      | 02/22/2005  | Gady Golan           | 29277               | 3635             |

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04/18/2007

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| EXAMINER |
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ABDULSELAM, ABBAS I

|          |              |
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| ART UNIT | PAPER NUMBER |
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2629

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 04/18/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/525,343

Applicant(s)

GOLAN ET AL.

Examiner

Abbas I. Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/16/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-41 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 1, 14 and 28 as amended include limitations “independently controllable pixels”. The limitation is not described in the specification.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 13-14 and 16-20 rejected under 35 U.S.C. 102(b) as being anticipated by Youngquist et al. (USPN 6549179).

Regarding claim 1, Youngquist teaches a pixel-based electronic display comprising a plurality of pixels, wherein said pixels respectively comprise dots of light emitting diode material (Fig. 3(20), dot matrix visual display, col. 5, lines 11-13 and the abstract).

Regarding claim 2, Youngquist teaches said pixels are arranged as segments of at least one seven-segment numeric display (col. 2, lines 61-65, col.8, lines 46-47 and Fig. 8(80)).

Regarding claim 3, Youngquist teaches said light-emitting diode dots are bonded to at least one underlying PCB (col. 4, lines 31-33 and Fig. 2 (20, 22)).

Regarding claim 4, Youngquist teaches said light emitting diode dots are wire-bonded to said at least one underlying PCB (col. 4, lines 31-33 and Fig. 2 (20, 22)).

Regarding claim 5, Youngquist teaches all of said pixels in any one of said segments are commonly wired (col. 1, lines 25-32 and col. 3, lines 40-44).

Regarding claim 13, Youngquist teaches associated with at least one pressure sensor based input device (Fig 1 (100, input sensors))

Regarding claim 14, Youngquist teaches a thin computing device comprising electronic processing functionality and a display screen, wherein said display screen is a pixel-based display screen comprising a plurality of pixels, wherein said pixels respectively comprise dots of light emitting diode material ((Fig. 3(20), dot matrix visual display, col. 5, lines 11-13 and the abstract).

Regarding claim 16, Youngquist teaches said display screen comprises a plurality of segments, each segment comprising a plurality of pixels wired together (col. 6, lines 36-58).

Regarding claim 17, Youngquist teaches said pixels are arranged as segments of at least one seven-segment numeric display (col. 2, lines 61-65, col.8, lines 46-47 and Fig. 8(80)).

Regarding claim 18, Youngquist teaches said light-emitting diode dots are bonded to at least one underlying PCB (col. 4, lines 31-33 and Fig. 2 (20, 22)).

Regarding claim 19, Youngquist teaches said light emitting diode dots are wire-bonded to said at least one underlying PCB (col. 4, lines 31-33 and Fig. 2 (20, 22)).

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Regarding claim 20, Youngquist teaches said pixels in any one of said segments are commonly wired (col. 5, lines 4-17).

6. Claims 28, 35 and 40-41, are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (USPN 6482664)

Regarding claim 28, Lee teaches a method of manufacturing a flexible low power display (col. 1, lines 66-67 and col. 2, lines 1-15) comprising: providing pixel dots of LED material, (LED chip 3) bonding said dots to a PCB (PCB 6) having a backing material, and removing said backing (PCB 6 has a desired circuit pattern formed of diverse plated layers, col. 3, lines 7-20).

Regarding claim 35, and 40-41 Lee teaches coating said display with a layer of epoxy resin (manufacturing white light-emitting diodes using epoxy resin powder mixed with a fluorescent material, col. 1, lines 6-10).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 6-12, 15, 21-27, 36-37 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Youngquist et al. (USPN 6549179).

Regarding, claims 6, 21, 36-37 and 38-39, Youngquist does not specifically teach light emitting diode dots are of a thickness not exceeding 200 microns.

However, it would have been an obvious matter of design choice to make Youngquist's LED (20) as configured in Fig. 5 to have thickness of the desired size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding claims 7 and 22, Youngquist teaches said underlying PCB is of a thickness not exceeding 200 microns (the PCB (22) comprises three layers of conductors interconnected, col. 5, lines 39-43. It would have obvious to alter the size of the layers constituting the PCB (22)).

Regarding claims 8 and 23, Youngquist teaches said underlying PCB is of a thickness not exceeding 150 microns (the PCB (22) comprises three layers of conductors interconnected, col. 5, lines 39-43. It would have obvious to alter the size of the layers constituting the PCB (22)).

Regarding claims 9 and 24, Youngquist teaches said pixels are configured to provide a brightness of substantially 4 Cd/cm at a power of substantially 1.5 mA (col. 6, lines 19-23 and

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col. 7, lines 25-30, brightness control ratio, it would have been obvious to alter an application of a pulse magnitude to set the desired brightness control ratio).

Regarding claims 10 and 25, Youngquist teaches said pixels are configured to provide a brightness of substantially  $4 \text{ Cd/cm}^2$  at a power of substantially  $1.5 \text{ mA}$  (col. 6, lines 19-23 and col. 7, lines 25-30, brightness control ratio, it would have been obvious to alter an application of a pulse magnitude to set the desired brightness control ratio).

Regarding claim 11, Youngquist does not specifically teach the electronic display being, incorporated into a smart card. However, as shown in col. 7, lines 25-30, Youngquist teaches display of any practical size. Hence it would have been obvious to make Youngquist's display small enough for a desired purpose. In addition see *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claims 12 and 15, Youngquist teaches associated with a thin flexible battery within said smart card (col. 7, lines 25-30, display of any practical size, and battery for small electronic device is well known).

Regarding claim 26, Youngquist teaches at least one touch panel associated with said computing functionality for allowing a user to interact with said device (two-dimensional surface mounted LED array display 18 shown in FIG. 1, touch panel display is well known in the art).



Regarding claim 27 comprising timing circuitry associated with said display screen, for energy management of said display screen (two-dimensional surface mounted LED array display 18 shown in FIG. 1, It would have been obvious to reconfigure the display (18) shown in a desired manner.).

9. Claims 30 and 32-34 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (USPN 6482664).

Regarding claim 30, Lee does not specifically teach pixel dots comprise a layer not exceeding 200 microns of said LED material.

However, it would have been an obvious matter of design choice to make Lee's LED chip 3 as configured in Fig. 2 to have thickness of the desired size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding claim 32, Lee does not specifically teach a PCB is of a thickness not exceeding 200 microns.

However, it would have been an obvious matter of design choice to make Lee's PCB 6 as configured in Fig. 2 to have thickness of the desired size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding claim 33, Lee does not specifically teach a PCB is of a thickness not exceeding 150 microns.

However, it would have been an obvious matter of design choice to make Lee's PCB 6 as configured in Fig. 2 to have thickness of the desired size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding claim 34, Lee does not specifically teach a backing layer is of a thickness of substantially 300 microns.

However, it would have been an obvious matter of design choice to make Lee's PCB 6 as configured in Fig. 2 to have thickness of the desired size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

10. Claim 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of fan et al. (USPN 6403985).

Regarding claim 29, Lee does not teach pixel dots comprising a masking procedure.

Fan on the other hand teaches an implant mask of photoresist 105 is formed which defines regions 41 between LEDs which will be ion bombarded to implant protons 111 (Step d) to laterally isolate individual dots or pixels 16', separated by highly (See Fig 10(c)).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's Manufacturing process shown in Fig. 2 to adapt Fan's implant

masking as illustrated in Fig. 10c because the use of implant masking helps fabricate an LED bar as taught by Fan.

Regarding claim 31, fan teaches said LED material is phosphide-doped gallium arsenide (col. 2, lines 13-15, gallium arsenide-phosphide on gallium arsenide substrates).

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I. Abdulsalam whose telephone number is 571-272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abbas Abdulsalam

Examiner

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April 12, 2007



**RICHARD HJERPE**  
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